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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,871	04/24/2001	David M. Keicher	ODC1120-DIVA	6152

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EXAMINER

FULLER, ERIC B

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 02/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application N .

09/841,871

Applicant(s)

KEICHER ET AL.

Examiner

Eric B Fuller

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

If applicant desires priority under 35 U.S.C. 120 based upon a previously filed copending application, specific reference to the earlier filed application must be made in the instant application. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph. The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No. \_\_\_\_\_" should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

Specifically, Application No. 09/119,317 is not referred to.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 5, and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 3, it is unclear if the powdered material is being vaporized in a sublimation process, or if there is melting involved first. As written, the powdered

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material is vaporized, not the melted powdered material. However, this claim depends from claim 1, wherein the powdered material is melted.

Pertaining to claims 5 and 7, the phrases "can be used" and "may be" renders the claims vague and indefinite. To claim 5, it is unclear if the Applicant is claiming that only a single laser is used for the method or if the method is still capable of being performed if only one laser is used. To claim 7, it is unclear if the lasers are turned on and off during the process or if they are just capable of it.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchiyama et al. (US 5,208,431).

Uchiyama teaches a process of producing objects by laser spraying. Spraying a powdered material towards a substrate and melting the material with a laser beam prior to it reaching the substrate, which causes the material to fuse into a thin layer on the substrate, performs this process (column 1, lines 45-65). A multi-axis table provides relative movement of the substrate. There are two laser beams (figure 2, ref. 1 and 2) and multiple nozzles (figure 2, ref. 3) that are all directed to approximately the same location.

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As to claim 4, a computer is used to control the movement of a table so that molds are not required (column 3, lines 1-15 and 60-65).

As to claim 6, both laser beams are used to create the entire article, including the featureless regions.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama et al. (US 5,208,431).

Uchiyama teaches the limitations of claim 1, but fails to teach a single laser can be used to outline the features of the object being produced. However, Uchiyama teaches that the second laser is used in order to heat the substrate in order to smooth it. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to not use the second laser when creating an outlined feature of the object, as smoothness would not be desired.

As to claim 7, Uchiyama also fails to teach that the lasers may be modulated on and off. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art that since the lasers are from different sources,

they may be modulated on and off independently from one another. As written, one line deposit made will read on this claim.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama et al. (US 5,208,431) in view of Schaefer et al. (US 4,200,669).

Uchiyama teaches the limitations of claim 1, but fails to teach that the powdered material may be vaporized. However, Schaefer, in a laser spraying method, teaches that by partially vaporizing the powdered material by the laser causes the particles to accelerate (column 3, lines 5-15). The advantage of this is that less carrier gas may be used (column 2, lines 60-68). To partially vaporize the powdered material in Uchiyama by a laser would have been obvious at the time the invention was made to a person having ordinary skill in the art. By doing so, less carrier gas may be used.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Omum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 9, 10, 12, 13, and 14 of U.S. Patent No. 6,268,584. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following:

Applicant's claim 1 is broader than the patented claims 1 and 2. The patented claims contain all the limitations of Applicant's claim 1 in addition to extra limitations. To exclude these additional limitations would have been obvious.

Applicant's claims 2, 3, 4 and 7 are the same scope as the patented claims 9, 10, 13, and 14, respectively. To make these claims dependant to either the patented claims or the Applicant's claim 1 would have been obvious as the only difference is that the patented claims are narrower.

Applicant's claims 5 and 6 describe additional features of the method claimed in the patent. However, the limitations reading to outline the features of the structure with one laser beam and to fill in the featureless regions with multiple laser beams would have been obvious at the time the invention was made to a person having ordinary skill in the art. This is because, as the outlined features of the article are being produced, a high precision would be desired. Precision is made better by having a smaller deposition area of the laser. One laser of the patented claim 1 would have a smaller deposition area than two. When filling in the featureless regions, a higher deposition rate is desired over precision. This would motivate one in the art to use the multiple lasers of the patented claim 1, as more deposition area results in higher deposition rate.

**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miller et al. (6,251,488 B1) teaches multiple lasers and nozzles in a laser spraying process. Jeantette et al. (US 6,046,426) teaches a multi-nozzle system. Matsuda et al. (US 4,947,463), in figure 2, teaches a multi-nozzle system.

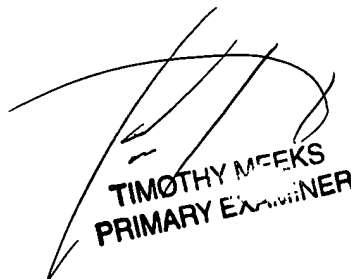
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B Fuller whose telephone number is (703) 308-6544. The examiner can normally be reached on Tuesday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-5408 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



EBF  
February 8, 2002



TIMOTHY MEEKS  
PRIMARY EXAMINER